

E2
Cont'd.

(b) strip chamber means for removal of photo-resist from said structure by chemical downstream etching or plasma

REMARKS

The Official Action and the sustained references used in the rejection have again been carefully reviewed. The review indicates that the claims, as presently amended, recite patentable subject matter and should be allowed. Reconsideration and allowance are therefore respectfully requested.

Before addressing the grounds on which the claims are rejected, an overview of the improved integrated metal etch tool for removing post-RIE polymer rails from Al/Cu metal lines of a semiconductor structure will be provided to draw a clearer line of distinction between the integrated metal etch tool containing vacuum and deionized water rinse chamber means or strip, vacuum and deionized water rinse chamber means of the invention, compared to the apparatus means disclosed in the Chen and Davis et al. references.

In the art of making semiconductor structures in which there must be removal of post-RIE polymer rails that are formed on a Al/Cu metal line, applicants are the first to invent interfaceable vacuum and deionized water rinse chamber means or strip, vacuum and deionized water rinse chamber means within an integrated metal etch tool that permits removing the sidewall polymers left behind after the metal (Al/Cu) RIE process. The novel chamber means of the interfaced metal etch

tool performs the chemistry (either post resist strip or prior to resist strip), to allow a final rinse step that only uses deionized water.

Claims 13-17 were rejected as being anticipated by Chen et al. under 35 USC 102(b).

Applicants respectfully traverse the rejection and request reconsideration for reasons hereinafter provided.

A review of Chen et al. shows that it only disclose a vacuum chamber for passivating and stripping to inhibit corrosion of a semiconductor substrate. This chamber strips the polymeric remnant resist remaining on the substrate. As is clearly stated in column 3, lines 17-19, the process only uses conventional processing equipment to passivate and strip the substrate.

Chen et al.'s equipment, as shown in FIG. 2, includes a vacuum chamber 52, comprising a plasma generation zone and a vacuum zone (column 5, lines 51-52).

Chen et al. makes no reference to or mention of, an integrated metal etch tool arrangement means to permit a final rinse step using only deionized water.

Significantly, the apparatus of Chen et al. discloses no chamber means to admit a mixture of etchant/neutralizing gas to form water-soluble materials, that permit deionized water removal of water-soluble materials.

Accordingly, the apparatus of Chen et al. fails to anticipate applicants' claims as now amended.

Withdrawal of the rejection is respectfully requested.

Claims 13-17 were rejected as being anticipated by Davis et al, under 35 USC 102 (b).

Applicants respectfully traverse this rejection and request reconsideration for the reasons hereafter set forth.

A review of Davis et al. shows that it disclose apparatus for transferring work pieces, that include integrating circuits. The apparatus essentially comprises:

- (a) a vacuum carrier having a sealable carrier door and capable of maintaining a vacuum with the workpieces therein, the carrier door movable between an open and close position;
- (b) a chamber adapted to receive the carrier and selective move and carrier door and having a closeable port; the chamber capable of maintaining an applied vacuum;
- (c) a moveable arm located within the chamber and capable of engaging the workpieces, the arm moveable into the carrier and through the port to transfer the workpieces;
- (d) a transfer mechanism located exterior to the chamber and adapted to transfer the workpieces from the arm to a non-vacuum processing station; and
- (e) a control system selectively applying vacuum and ambient pressure to the chamber.

While Davis et al. disclose a multi-chamber apparatus, this apparatus lacks chamber means to perform semiconductor structure chemistry (either post resist strip or prior to resist strip) to permit a final rinse step using only deionized water.

Contrary to the assertions with regard to col. 60, lines 34-54 and col. 44, lines 33-47, Davis et al. clearly lacks the apparatus combination of either the vacuum and deionized rinse chamber means of claims 16-17 or the strip, vacuum and deionized rinse chamber means of claims 13-15. Accordingly, Davis et al. fails to anticipate applicants' claims as presently amended.

Withdrawal of the rejection is respectfully requested.

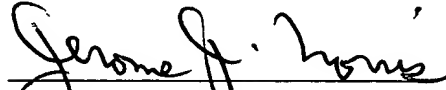
Claim 15 has been rejected under the second paragraph of 35 USC 112, on grounds of indefiniteness; however, in view of the amendment to claim 15 changing the word integration to integrated, this rejection is no longer applicable.

The comments regarding 35 USC 112, 6th paragraph has been considered; however, applicants representative believes that the claims as revised are not contra to the 3rd prong as means plus function language in view of the fact that the claims as presently revised are not modified by sufficient structure, material or acts for changing the specified function.

In view of the foregoing amendments, remarks and arguments, it is believed that the application is now in

condition for allowance and early notification of the same is earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "Jerome J. Norris", written over a horizontal line.

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